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REMARKS

This Amendment is responsive to the Office Action identified above, and is further responsive in any other manner indicated below.

PENDING CLAIMS

Claims 1-26 were pending, under consideration and subjected to examination in the Office Action. Appropriate claims have been amended, canceled and/or added (without prejudice or disclaimer) in order to adjust a clarity and/or focus of Applicant's claimed invention. That is, such changes are unrelated to any prior art or scope adjustment, and are simply refocused claims in which Applicant is presently interested. At entry of this paper, Claims 1-26 will be pending for further consideration and examination in the application.

ALLOWED CLAIMS

Claims 10 and 19 have been allowed in the application, as indicated within the items 12-13 on page 12 of the Office Action. Applicant and the undersigned respectfully thank the Examiner for such indication of allowable subject matter.

35 USC '112, 1ST PARAGRAPH REJECTION - TRAVERSED

Claims 1-9, 11-18 and 20-26 have been rejected, under 35 USC '112, first paragraph, for the concerns listed within the item 6 beginning on page 2 of the Detailed Action of the Office Action. Applicant respectfully reiterates the following Office Action concern(s) and follows with Applicant's traversal:

Office Action Concern:

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At the last line in each of claims 1 and 2, the "integral casting of the planar plate" is not supported by the specification, as originally filed. The same applies to dependent claims 3-9, 11-18, and 20-26. The specification, as originally filed, does support an integral molding of the planar plate (see page 12, line 27), but is silent concerning "casting".

Applicant's Traversal: The Examiner appears to be taking a position that if there is a subject word (e.g., "casting") used within the claims, which is not used (i.e., mentioned) within the original disclosure, then a 112, 1st para., "written description" automatically applies. Traversal is appropriate, in that it is respectfully submitted that the examiner is being overly restrictive in terms of the "written description" requirement.

More particularly, MPEP 2163.03, itself, sets forth that "The subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement." Relatedly, MPEP 2163.07 (applicable to "new matter", and thus applicable to "written description"; note: MPEP 2163.01 indicates that "...the test or analysis of description requirement and new matter issues is the same") states "...a rewording of a passage where the same meaning remains intact is permissible".

With regards to the present situation, it is respectfully submitted that "molding" and "casting" are very frequently used interchangeably within the English language, and are also frequently used interchangeably within the art to which the present invention is directed. Such interchangeability probably occurs due to the fact that both "molding" and "casting" have essentially overlapping definitions, i.e., "molding" is defined as "something molded", while "casting" is defined as "something cast in a mold" (Webster's New World Dictionary, copyright 1985, pages 706 and 173). In the context of Applicant's claims, "molding" and "casting" have the same meaning, i.e.,

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the manufactured item (planar plate) derived from using male and female die 200 and 400 (see Applicant's FIG. 2).

Despite the above traversal, in order to travel a path of least resistance, Applicant's claims have been amended to use the "integrally-molded" term explicitly recited within Applicant's original disclosure (see Applicant's specification page 12, line 27, for example).

Office Action Concern:

At lines 1-2 in each of claims 21, 22, 24, and 25, at lines 4-5 in claims 21 and 22, and at line 4 in claims 24 and 25 the term "at least one access opening" is not supported by the specification, as originally filed. The specification does teach solution reservoirs (30) (see, for example, page 9, line 9). However, a solution reservoir is not sufficient support for a generic "access opening". Furthermore, plural solution reservoirs is not support for the range "one or more". It is suggested that said term be changed to "solution reservoirs".

Applicant's Traversal: Again, the Examiner is being too strict regarding 112, 1st paragraph rejections. More particularly, it must be remembered that a point of view of the "written description" requirement is from the skilled artisan, i.e., to adequately support a 112, 1st para., rejection, MPEP 2163 states that "the examiner has the initial burden of presenting by a preponderance of evidence why a person skilled in the art would not recognize in applicant's disclosure a description of the invention defined in the claims." Here, Office Action comments are only putting forth a generalized allegation without any analysis from a skilled artisan perspective. More particularly, the Examiner appears to be expressing his own personal preference that the claims be more of a "picture" claim and explicitly recite the exact example embodiment illustrated in Applicant's disclosure. However, "picture" claiming is not a requirement under U.S. patent laws.

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As further rebuttal, MPEP 2163.05 states, "A claim that omits an element which applicant describes as an essential or critical feature of the invention originally disclosed does not comply with the written description requirement." In contrast, MPEP 2163.05 indicates that a claim that omits an element which the specification did not describe as essential or critical to the operation of the invention, is not in violation of the written description requirement. It is respectfully submitted that Applicant's original specification nowhere describes the "solution reservoirs" as being essential or critical, and further, it is respectfully submitted that a skilled artisan instantly would have recognized that such are not essential or critical to operation of the invention. That is, a skilled artisan would have recognized that a sample and/or solution could have been delivered to Applicant's "channels" in many ways other than "solution reservoirs", e.g., via hoses.

Regarding the claimed "access opening", it is respectfully submitted that a skilled artisan clearly would find such as adequately supported, i.e., any skilled artisan would immediately recognize that each one of Applicant's reservoirs is clearly an "opening" formed in the planar plate, which opening provides "access" to Applicant's channel (i.e., allows fluid to be communicated to the channel). Regarding "at least one access opening", it is well settled in U.S. patent law that Applicant's are not required to claim a complete apparatus. All that is required is that Applicant claim sufficient features/limitations to distinguish over any prior art. Here, Applicant's "at least one access opening" (and the other recited components) integrally-molded in Applicant's planar plate is sufficient to distinguish.

To instead claim plural "solution reservoirs" (as recommended by the Examiner) would add no distinguishing value to Applicant's claim, and instead, may

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actually hurt Applicant in terms of enforcement/infringement. More particularly, plural reservoirs do not always have to be used in every implementation of Applicant's invention. As one example, Applicant's invention may be practiced by having a single reservoir receiving a sample fluid, whereas the other end of Applicant's sample channel can simply flow directly into a waste sink for discarding. As to the separation channel, one end can be directly connected to a carrier solution supply (e.g., via a hose), while the other end can simply flow directly into a waste sink for discarding. In view of the above, Applicant declines to modify the claim with plural "solution reservoirs" as recommended, and Applicant respectfully requests reconsideration of the 112, 1st para. rejection.

Office Action Concern:

At line 2 in each of claims 23 and 26, the range "on at least two sides thereof" for the air gap is not supported by the specification, as originally filed. It is suggested that "on at least two sides thereof" be deleted from each of claims 23 and 26.

Applicant's Traversal: Traversal is appropriate because Applicant's specification page 8, lines 14-16, provide clear support for such feature.

Regarding all other 112, 1st para. concerns, it is respectfully submitted that appropriate ones of Applicant's claims have been amended to remove disputed features from such claims.

Based upon the foregoing, reconsideration and withdrawal of the above-referenced rejection are respectfully requested.

REJECTION UNDER 35 USC §103-TRAVERSED

All 35 USC §103 rejections are respectfully traversed. Such rejections have been rendered obsolete by the present clarifying amendments to Applicant's claims,

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and accordingly, traversal arguments are not appropriate at this time. However, Applicant respectfully submits the following to preclude renewal of any such rejections against Applicant's clarified claims.

All descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated herein by reference. Further, all Office Action statements regarding the prior art rejections are respectfully traversed. As additional arguments, Applicant respectfully submits the following.

In order to properly support a §103 obviousness-type rejection, the reference not only must suggest the claimed features, but also must contain the motivation for modifying the art to arrive at an approximation of the claimed features. However, the cited art does not adequately support a §103 obviousness-type rejection because it does not, at minimum, disclose (or suggest) the following limitations of Applicant's clarified claims.

More particularly, Applicant's disclosed and claimed invention is directed to electrophoretic separation arrangements which are easy/cheaper to manufacture, which can be manufactured consistently with high quality/fidelity, which can reduce background/stray light contamination, and which can analyze samples with high speed. One important feature of Applicant's invention is a planar plate that integrally includes a number of items integrally-molded therein. For example, FIG. 6 shows a planar plate 10 which includes numerous items including optical components (e.g., excitation focusing lenses 41). By having items integrally-molded therein (resultant from molding manufacturing), optical alignments can be made ahead of time by

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using a die designed to afford automatic alignment of the planer plate items during manufacture.

In terms of claim language, independent Claim 1, for example, contains the features/limitations "wherein the planar plate has the channel, the at least one optical component, the first flat and smooth incoming window, the second flat and smooth incoming window, the excitation transmission path, the first flat and smooth outgoing window, the second flat and smooth outgoing window and the fluorescent transmission path integrally-molded therein."

Regarding the applied art, neither of JP 09288090 nor W0 00/06996 disclose a planar plate having such items integrally-molded therein. At best, JP 09288090 states (English language translation thereof) that "grooves 20-22 are formed in the surface of the substrate." Such "formed" teaching is vague, in that it provides no detailed teaching as to exactly how the grooves are formed, e.g., are they drilled? sawed? melted? etched? Etc. Without such reference providing detail, any characterization of such reference forming the grooves one way or another would be pure (and improper) speculation.

Office Action comments regarding JP 09288090 assert, "As seen in Figure 1, channels (20, 21) have what appear to be a rectangular cross-section." Traversal is again appropriate, because such statement is also pure (and improper) speculation. More particularly, JP 09288090 nowhere describes the cross-sectional shape of its grooves (or how they are formed), and there is insufficient detail provided in JP 09288090's minute drawings to allow such speculation.

Other Office Action comments regarding JP 09288090 assert that certain regions of regarding JP 09288090's channels represent arrangements analogous to

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Applicant's first and second flat and smooth incoming window, and first and second flat and smooth outgoing window. Traversal is again appropriate, because such statement is also pure (and improper) speculation. More particularly, JP 09288090 nowhere describes the shapes and/or flatnesses of such grooves regions (or how they are formed, which might give some insight into flatness, etc.), and there is insufficient detail provided in JP 09288090's minute drawings to allow such speculation.

The Examiner must point to something in the prior art that suggests in some way a modification of a particular reference or a combination of references in order to arrive at Applicants' claimed invention. Absent such a showing, the Examiner has improperly used Applicants' disclosure as an instruction book on how to reconstruct to the prior art to arrive at Applicants' claimed invention.

Further Office Action comments regarding JP 09288090 state, "The channel (22) and the slit (36) are the same as here claimed, whether they are formed during molding of the planar plate or machined into the planar plate after molding. Traversal is appropriate, because such Office Action comments represent an unsubstantiated opinion. Requirements for '103 have been clarified in the recent decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge". The court pointed out:

The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the

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automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and **could not be resolved on subjected belief and unknown authority.** It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

With respect to the present "molding" vs "machining" allegations, Applicant's specification specifically describes that molding advantageously results in parts (e.g., channels, windows) having high accuracy (e.g., fidelity), smoothness, etc. In contrast, any "machining" will be significantly less accurate (due to varying machining tolerances) and much less smooth.

None of the other applied references cure the major deficiencies discussed above with respect to the primary JP 09288090 reference. Accordingly, it is respectfully submitted that no applied reference taken alone, or applied references taken in any combination, would have rendered Applicant's claimed invention obvious.

In addition to the foregoing, the following additional remarks from Applicant's foreign representative are also submitted in support of traversal of the rejection and patentability of Applicant's claims.

The present invention importantly includes the electrophoresis apparatus formed by integrally molding a planar plate made of thermoplastic transparent epoxy resin. In detail, as shown in Fig. 2 of the accompanying drawings, male dies having curved surfaces are formed on planer plates with the use of a photo-application

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technology in which a resist is processed by development, an X-ray lithography process for carving a planar plate or the like. The male dies have heights, in usual, in the order of several to several hundred micron meters, or not greater than several millimeters at maximum. In the above-mentioned processes, it is important to make side surfaces of the male dies sufficiently smooth, as specifically explained in the specification in the present application with reference to Fig. 4.

The thus formed dies are applied or coated with transparent thermoplastic resin such as epoxy resin, silicone resin or liquid glass cast into the mold defined by the planar plates carrying the male dies as stated in the specification in the present application. These resin materials are in a liquid state at a room temperature, and accordingly, can be distributed within the mold at every nook and corner thereof (this action corresponding to "the coating" as stated in the specification in the present application (Refer to a passage in lines 11 to 17 on page 12 in the English Text), for a while after the casting. Then, the transparent resin is heated in order to transfer shapes of the male dies into the resin material. Then, the mold is parted so as to obtain a molding, and a base board is finally adhered to the thus obtained molding so as to define passages therein.

As stated above, with the use of a mold having a smooth surface, and a transparent material having a satisfactory degree of transcription, optically usable passages can be integrally molded.

As a result of all of the foregoing, it is respectfully submitted that the applied art (taken alone and in the Office Action combinations) would not support a §103 obviousness-type rejection of Applicant's claims. Accordingly, reconsideration and

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withdrawal of such §103 rejection, and express written allowance of all of the §103 rejected claims, are respectfully requested.

RESERVATION OF RIGHTS

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer of any scope or subject matter. Further, Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, *i.e.*, Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

EXAMINER INVITED TO TELEPHONE

The Examiner is invited to telephone the undersigned at the local D.C. area number 703-312-6600, to discuss an Examiner's Amendment or other suggested action for accelerating prosecution and moving the present application to allowance.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are in condition for allowance. Accordingly, early allowance of such claims is respectfully requested.

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To whatever other extent is actually necessary, Applicant respectfully petitions the Commissioner for an extension of time under 37 CFR §1.136. Please charge any actual deficiency to ATS&K Deposit Account No. 01-2135 (Case No. 500.41074X00).

Respectfully submitted,



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